

**REMARKS**

Favorable reconsideration and allowance of the subject application are respectfully requested. Claims 1-2 and 4-41 are pending in the present application, with claims 1, 7, 22, 38 and 40 being independent.

***Claim Rejections Under 35 U.S.C. §102***

The Examiner rejected claims 1-7, 10-16, 19, 20, 22-27, 30-35, and 38-41 under 35 U.S.C. §102(e) as being anticipated by *Zheng et al.* (US 6,184,816). This rejection is respectfully traversed insofar as it pertains to the presently pending claims.

**Independent Claim 1**

Independent claim 1 is directed to a flying object navigation system comprising a base station capable of storing information provided as common information for navigation of at least one flying object existing as a navigation object. The base station transmits to the flying object necessary data from the stored information for determining a course of action to be taken by the flying object, on the basis of observation data from meteorological observation means for observing the meteorology of a space region in which the flying object is flying. The base station transmits the necessary data by using communication means connected to the

flying object. The base station has a memory for storing data sets comprising all observation data obtained in the past through observation by the meteorological observation means; records of courses of action taken by the flying object on the basis of the observation data; and records of events encountered by the flying object as a result of the records of the courses of action. The course of action taken by the flying object is determined based on a prediction result, whereby the prediction result is based on the observation data obtained, the records of courses of action taken, and the records of events encountered, which are stored as data sets in the memory of the base station

Regarding claims 1, 5, 7, 8, 38, and 40, Zheng et al. fails to teach or suggest at least that: (1) "the course of action taken by said flying object is determined based on a prediction result, the prediction result being based on the observation data obtained, the records of courses of action taken, and the records of events encountered, which are stored as data sets in the memory of the base station;" and (2) a database having data sets including observation data, records of courses of action taken by the flying object, and records of events encountered by the flying objects as a result of the records of the courses of action, as recited in claim 1.

According to a preferred embodiment of the present invention, the three contents are stored so as to be linked to each other in the database. A similar and suitable model case is searched among the database to facilitate prediction of events that may be encountered by the flying objects after the observation. Such a database is obtained to facilitate accurate prediction of events. See page 11, lines 5-9, of the present application.

In other words, the present invention predicts what events the flying objects may encounter when a course of action is taken by the flying object in view of the observation data.

*Zheng et al.*, however, merely teaches that various data is stored. In fact, *Zheng et al.* contains absolutely no teaching that a course of action, which is taken by a flying object is determined based on a prediction result, whereby the prediction result is based on obtained observation data, records of courses of action taken, and the records of events encountered, which are stored as data sets in the memory of the base station. Therefore, *Zheng et al.* cannot predict what events the flying objects may encounter when a course of action is taken by the flying object in view of the observation data by searching a similar case in a database.

Regarding dependent claim 16, the Examiner alleges that col. 7, lines 2+ of *Zheng et al.* teaches a communication means for performing wireless communication using light waves. Specifically,

the Examiner alleges that "Lidar" is a communication means for performing wireless communication using light waves. The term "LIDAR," however, is an abbreviation for "Light Detection And Ranging", which is a so-called laser radar, see col. 7, lines 3-4 of *Zheng et al.* As such, Applicants respectfully submit that "LIDAR" is not a communication means and therefore, *Zheng et al.* does not anticipate the claim.

Independent Claim 7

Independent claim 7 is directed to a flying object navigation system comprising a base station capable of storing information provided as common information for navigation of at least one flying object existing as a navigation object, the base station transmitting to the flying object necessary data from the information for determining a course of action to be taken by the flying object, on the basis of observation data from meteorological observation means for observing the meteorology of a space region in which the flying object is flying, the base station transmitting the necessary data by using communication means connected to the flying object, and wherein the base station transmits a signal for operating the flying object to control the operation of the flying object.

As stated in the amendment submitted on December 23, 2002, *Zheng et al.* fails to teach or suggest at least that a base station transmits a signal for operating the flying object to control the operation of the flying object, as recited in claim 7.

The Examiner maintains the allegation on page 5 of the outstanding Office Action that *Zheng et al.* teaches this feature and cites column 16, lines 30+, for support thereof. As stated previously, *Zheng et al.* teaches in column 16, lines 30+: data collection via up-/down-link for aircraft using existing equipment; a retrofit installation that includes a ground proximity warning sensor; and examples of weather polygons.

Applicants once again respectfully submit that *Zheng et al.* makes absolutely no mention that a base station transmits a signal for operating the flying object to control the operation of the flying object. Referring again to col. 16, lines 30+ of *Zheng et al.*, specifically to lines 44-50, it is merely taught that "weather products are up-linked to originating aircraft and other aircraft...[and]...are received and stored...and converted to visual depictions."

Referring to page 39, second paragraph, of the present application it is taught that "a control signal may be transmitted from the base station 3 to the airplane 10 through the antenna 11 to operate the airplane 10, thereby preventing occurrence of human

error in control by a pilot." Therefore, and as stated above, *Zheng et al.* does not even remotely suggest the features of claim 7, e.g., that a signal is transmitted from a ground station to control the operation of the flying object.

Accordingly, Applicants respectfully request that the Examiner withdraw the rejection and indicate allowance of claim 7, or at the minimum that the Examiner specifically and clearly indicates where and how *Zheng et al.* teaches the features of claim 7.

Independent Claim 22

Independent claim 22 is directed to a flying object having a navigation system comprising meteorological observation means for observing the meteorology of a space region in which the flying object is flying, and flying object interconnection means for interconnecting directly with a plurality of the flying objects. The information provided is as common information for navigation of the flying objects and is stored in each of the flying objects. A course of action, which is to be taken by each of the flying objects, is determined on the basis of the information and observation data from the meteorological observation means.

Applicants have amended claim 22 to clarify that the flying object contains a navigation system, which is directly interconnected with a plurality of flying objects such that

information is stored in each of the flying objects to thereby determine a course of action for the flying object.

As previously stated in the amendment submitted on December 23, 2002, *Zheng et al.* fails to teach or suggest that the flying object interconnection means *directly interconnects* a plurality of flying objects. The Examiner, however, continues to allege that this feature is taught in Fig. 4 and column 16, lines 30+, of *Zheng et al.* Referring to that cited section, and as stated above, it is merely taught that an aircraft collects data and transmits this data via an antenna to a ground station 60. The data is then uplinked from the ground station to the originating aircraft and other aircraft. This data, however, is not directly transmitted to, for example, from aircraft 54 directly to aircraft 62 or 64, as shown in Fig. 4 of *Zheng et al.* Therefore, *Zheng et al.* once again fails to anticipate the claim.

Independent Claims 38 and 40

Regarding independent claim 38 and 40, Applicants respectfully submit that *Zheng et al.* fails to teach or suggest at least that: (1) a database terminal determines prediction results based on received observation data and prior observation data received from a plurality of flying aircraft; and (2) the received observation

data is categorized in the database terminal according to occurred events in similar trajectories and spatial positions.

As stated above, *Zheng et al.* fails to provide any teaching that a prediction result is based on received and prior observation data, which are received from a plurality of flying aircraft. As such, *Zheng et al.* does not and could never anticipate at least this feature of either claims 38 or 40.

Additionally, *Zheng et al.* also fails to anticipate the feature that the observation data is categorized in the database terminal according to occurred events in similar trajectories and spatial positions. The Examiner alleges on pages 11 and 12 of the outstanding Office Action that col. 15, line 58, to col. 16, of *Zheng et al.* teaches this feature. Referring to that cited section of *Zheng et al.*, it is merely taught that a display is included for displaying CAT information to the pilot and that this display may include weather and/or CAT data uplinked to the aircraft. *Zheng et al.*, however, makes absolutely no mention that the observation data is categorized in the database terminal according to occurred events in similar trajectories and spatial positions. Therefore, *Zheng et al.* also once again fails to anticipate independent claims 38-40.

Claims 2, 4-6, 10-16, 19, 20, 23-27, 30-35, 39, and 41 are dependent claims, which should be considered allowable at least for depending from an allowable base claim.

Accordingly, in view of the above discussion, Applicants respectfully request that the Examiner withdraw each of the rejections.

***Claim Rejections Under 35 U.S.C. §103***

The Examiner rejected: claims 17-18 under 35 U.S.C. §103(a) as being unpatentable over *Zheng et al.* in view of *Small et al.* (US 5,093,563); and claims 21, 36, and 37 under 35 U.S.C. §103(a) as being unpatentable over *Zheng et al.* in view of *DeGroot et al.* (US 6,327,039). These rejections are respectfully traversed.

Claims 17-18, 21, 36, and 37 are dependent claims, which should be considered allowable at least for depending from an allowable base claim. Accordingly, withdrawal of the rejections is respectfully requested.

***Conclusion***

In view of the above amendments and remarks, this application appears to be in condition for allowance and the Examiner is, therefore, requested to reexamine the application and pass the claims to issue.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicants hereby petition for an extension of time for one (1) month to July 25, 2003, for filing a reply to the Office Action dated March 25, 2003, in connection with the above-identified application.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at the telephone number below, which is located in the Washington, DC area.

Pursuant to 37 C.F.R. § 1.17 and 1.136(a), Applicants respectfully petition a one (1) month extension of time for filing a response in connection with the present application. The required fee of \$110.00 is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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